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AN INVESTIGATION OF PREDOMINANT PARA-LINGUISTIC  
FEATURES OF LANGUAGE INVOLVED  
IN THE COMMUNICATION PROCESS

by



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A THESIS

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The undersigned hereby certify that they have read and recommended to the Faculty of Graduate Studies for acceptance, a thesis entitled, "An Investigation of Predominant Para-Linguistic Features of Language Involved in the Communication Process," submitted by Margaret Elizabeth Feist in partial fulfilment of the requirements for the degree of Master of Education.



## ABSTRACT

The study was an investigation of the predominant para-linguistic features of the language involved in the communication process. It attempted to gather empirical evidence which would indicate that the students can identify those features in the encoding component suggested by authorities as important, and which would enable teachers to appraise their own oral communication.

Eight features commonly called para-linguistic features by some linguistic authorities were compiled as an instrument. The instrument was presented to eight grade eleven classes of the Edmonton Separate School System. The features of poise, position maintained, head movement, facial expression, distance, eye movement, intonation, and hand gestures were included. The students were asked to rate these features in a best and in a weakest communicator.

The data collected were subjected to the Kolmogorov-Smirnov one-sample test to determine whether students indicated significant preferences in the choices of one of the ratings for each feature.

The results of the investigation showed that the grade eleven students indicated significant preferences in favouring one of the ranks for the best communicator. The level of significance was .01. These same students were



not equally perceptive of which features are lacking in the weakest communicator.

Of the eight features suggested, the students rated poise and position maintained as most important. The lack of appropriate hand gestures and intonation were considered to contribute most toward poor communication.

In the area of feedback from the students, it became evident that the teachers rely largely on oral questions. The teachers showed confusion in attempting to identify the para-linguistic features which might serve as feedback from the decoder.

Finally, there is significant evidence that the students consider para-linguistic features important for effective oral communication. Teachers would do well to evaluate their own oral communication in the light of these findings.



## ACKNOWLEDGEMENTS

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My sister Lorraine aided me in a special manner by her constant encouragement and her own persevering efforts. For this I am deeply grateful.



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## CHAPTER I

### BACKGROUND AND IMPORTANCE OF THE INVESTIGATION

#### I. INTRODUCTION

For years educated men have realized that words seem to exert influence or even control over human beings. In fact, numerous studies in rhetoric, as far back as Aristotle, in mass communication by Katz and Schramm, and in engineering by Shannon and Weaver, have been undertaken to analyze techniques of speaking, writing and transmitting information in order that man might more effectively influence his fellow man.

Within the last decade or so, there has been, what we might refer to as a "communication explosion." Large sums of money are being spent on public relations; dialogue is on everyone's tongue. Communications departments are being established in institutions of learning, and places of business.

Berlo states it thus:

The word 'communication' has become popular. It is used currently to label relationship problems between labor and management, among countries, among people generally. The word is viewed in different ways.<sup>1</sup>

In universities and other institutions of learning, the word "communication" has become popular, also. Some of

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<sup>1</sup>D.K. Berlo, The Process of Communication (New York: Holt, Rinehart and Winston, 1960), p. 3.



these institutions apply the word to a department which administers the new kind of interdisciplinary approach; others merely attach the label communication to an existing department while viewing the entire area of communication in the traditional way.

Outside the academic field, there is a new emphasis on communication caused mainly by the technological revolution. Newspapers, magazines, the stage, and television have become markets for the professional communicator.

Another group of professionals is responsible for assessing the impact or effectiveness of various kinds of communication. Opinion and attitude researchers, marketing researchers, pollsters and surveyors - all play roles in what might be referred to as the communication industry.

Berlo summarizes this new emphasis in communication as succinctly as any writer.

Many social commentators call this the age of symbol-manipulation. In our grandfather's day, most people earned a living by manipulating things, not by manipulating symbols. Men got ahead if they could forge a better horseshoe, harvest a better crop, build a better mousetrap. Communication was, of course, important then, too, but it was less relevant to a man's career.<sup>2</sup>

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<sup>2</sup>Ibid., p. 4.



Industry, certainly, is a typical example of this new emphasis on communication. Fifty or seventy-five years ago, the manager in any industrial organization was conversant with every operation performed in his shop. He might even have been able to explain every technique, and perhaps even perform every task. But with the development of automation and mass production, all this has changed. The rise of a professional "manager" is now in evidence. This manager is really the man who reaches the top of the industrial ladder, not because of what he can do with things, but because of what he can do with people -- through communication.

In modern government there is certainly a growing need for this closer interrelationship among government agencies. There is need for the accumulation, interpretation, and dissemination of information on a vast scale. All this implies a communications network. Berlo states it clearly when he says that demonstrably, communication concerns are broad in scope and have permeated much of human activity.<sup>3</sup>

In a world, such as ours, where 'no man is an island,' where more and more, on the familial, communal, and international level, people must and do communicate in order to live more amicably, it is almost mandatory that educators concern themselves more with oral communication specifically.

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<sup>3</sup> Ibid., p. 7.



Most teachers of English have, in the past, devoted a greater percentage of time to written assignments, rather than oral communication.<sup>4</sup> Upon the ability of men to communicate more effectively, especially interpersonally, will depend the possibility of finding intellectual solutions to common problems.

Schramm suggests that:

Communication is one of the busiest crossroads in the study of human behavior, which is understandable because communication is a -- perhaps THE -- fundamental social process. Without communication, human groups and societies would not exist. One can hardly make theory or design research in any field of human behavior without making some assumptions about human communication.<sup>5</sup>

Beginning with a representative definition of language, such as Carroll gives us:

A language is a structured system of arbitrary vocal sound and sequences of sounds which is used, or can be used, in interpersonal communication by an aggregation of human beings . . .<sup>6</sup>

the linguists have concluded that the most important component, for their purposes, is communication by sequences of speech sounds. While not in any way wishing to detract from these noted linguists, the writer feels a need for greater

<sup>4</sup> Representative statements are found in Hans P. Guth, English Today and Tomorrow (Englewood Cliffs: Prentice-Hall, 1964) pp. 80-90; and Loban, Ryan, and Squire, Teaching Language and Literature (New York: Harcourt, Brace and World, Inc., 1961) pp. 424-483.

<sup>5</sup> W.L. Schramm, Mass Communication, (Urbana: University of Illinois Press, 1966), p. 1.

<sup>6</sup> J. Carroll, The Study of Language, (Cambridge: Harvard University Press, 1963) p. 10.



cognizance of those other features not included in a definition of language.

Carroll realizes this need. As he says further:

It will be observed that this definition excludes nonvocal acts such as gestures and pantomimic responses. Though such acts may often be structured somewhat as vocal responses are, and though they may perform a communication function which parallels or supplements that of verbal acts, they are as a matter of definition not included in language.<sup>7</sup>

Surprisingly little attention has been paid to those features of the communication process which are not specifically included in any definition of language, yet are such an intrinsic part of that process.

Linguists from Bloomfield, Jesperson, and Sapir, to Lado, Allen, and Carroll have dwelt upon basically the same phenomena. Language, usually the spoken, morphology, syntax, semantics, phonemics, and phonetics, these are the areas that have been defined and written about.

Saporta in the readings in Psycholinguistics agrees with Carroll in his belief that there has been a definite neglect of these para-linguistic features of language. Carroll summarizes the neglect in the following statement:

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<sup>7</sup> Ibid.



This narrowing of attention to language as a system of spoken communication may have been unfortunate, in that the study of gesture and other nonlinguistic semiotic systems related to language has thus far been slighted. The study of spoken communication systems is in itself a tremendous task and linguists may perhaps be excused for not taking full account of other forms of communicative behavior.<sup>8</sup>

Saporta echoes the opinion stated by Carroll.

What is needed is a more exact treatment of the conditions under which an influence is possible and the ways it would work. This involves reference to data not available from ordinary linguistic descriptions and requires the utilization of extra-linguistic techniques.<sup>9</sup>

Sapir also, stresses this newer approach to communication:

Not only the impulses that direct and impel speech, but also the effects of speech upon both speaker and listener, are profound as human character and thought. When there is a mind replenished with vivid and sincere ideas and the individual has an impelling urge to communicate, it is not the speech organs alone that go into operation. It is the entire being. This involves what we cover by the term para-linguistics. Intelligent oral communication differs from written communication in being less rigidly formal and more responsive to the person being communicated with. Realization of communication as a circular response is, therefore, the important point. Not until one senses the living presence of his listeners with their needs, fears, and hopes, will he exercise the full power of communication. But if he has acquired this 'sense of communication,' effective words, voice and gestures will -- with a moderate amount of training -- follow from it. One who masters the art of adequate communication must be responsive to the art of gesture.<sup>10</sup>

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<sup>8</sup> *Ibid.*, p. 13.

<sup>9</sup> S. Saporta, Psycholinguistics, (New York: Holt, Rinehart and Winston, 1961), p. 293.

<sup>10</sup> E. Sapir, Culture, Language, and Personality, (Berkeley: University of California Press, 1961), p. 38.



Some clarification is in order here. The term 'gesture,' as used in the literature by the more modern writers, is not limited to simple movements of the hands. The authors refer to hand movements as simply gesticulations. Gestures (in the wider sense), para-linguistic features, extra-linguistic features are terms used in referring to certain features in the communication process which are visually and aurally discernible by the decoder. For purposes of this thesis the term para-linguistic features of the language will include the features poise, position maintained, head position, facial expression, distance maintained, eye movement, intonation, and hand gestures.

Eiserson says:

Gestures occur especially when the speaker needs to modify or reorganize his message. This often occurs according to the responses he begins to get from the listener. (This indicates the circular nature of the process.) Gestures may be most emphatically used to reinforce words. If the speaker realizes that he has used an inappropriate verbal system, he may employ gestures to substitute for words.<sup>11</sup> <sup>#12</sup>

Warfel in Language Association of Human Behaviour also refers to the adequate and supporting use of gestures:

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<sup>11</sup> J. Eiserson, Psychology of Communication, (New York: Appleton-Century Croft, 1963), p. 223.

<sup>12</sup> <sup>#</sup> Underscoring and parenthesis have been used for emphasis.



In ordinary conversation everyone has at times been unable to finish a sentence because he began an awkward structure or could not find the right word, yet he could communicate adequately by using gestures or noises to compensate for lapses.<sup>13</sup>

From these authorities can be gathered the fact that gestures or para-linguistic features serve to reinforce, substitute for, compensate for, modify, reorganize, translate or parallel the spoken word in the communication process.

Most oral speakers use intentional gestures to enhance their vocal symbols, as Eiserson says:

Such gestures tend to emphasize meanings, to underscore oral words. Not infrequently, however, gestures are employed when oral words are not adequate for our speech purpose. The implication is that gestures are more universal and so can convey ideas and moods when oral words fail.<sup>14</sup>

## II. PURPOSE OF THIS INVESTIGATION

This study attempts to investigate some of the problems touched upon in the preceding section. Specifically, the study is concerned with the following questions:

1. Based upon the descriptions of some linguistic authorities and models developed by engineers and researchers in mass communication, can an acceptable model of the communication process be presented which can be adapted for use by teachers of English?

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<sup>13</sup> H.R. Warfel, Language, A Science of Human Communication, (Cleveland: H. Allen Company, 1962), p. 229.

<sup>14</sup> Eiserson, op. cit., p. 12.



2. Can the predominant para-linguistic features of the language suggested by authorities be identified by high school students: That is, will those features suggested by some authorities in the area of oral communication as essential for more effective communication be considered predominant by senior high school students?

3. Of which para-linguistic features in the decoding component of the process of communication are teachers aware?

Consideration and identification of the predominant para-linguistic features as an intrinsic component of the communication process should serve to alert educators to the significance of the entire field of communication. The investigation may also suggest changes in emphasis in instructional methods; may aid in the de-emphasis of types of artificial written communications; may lead to further investigations of the communication process so as to reduce the influence of some of the factors that interfere with adequate human relationships in the social milieu where there is a daily upsurge of a greater intermingling of peoples.



## CHAPTER II

### MODEL OF THE PROCESS OF COMMUNICATION

#### I. CONCEPT OF MODEL AND PROCESS

The word process is attached to our discussion of communication. The concept of process is itself complex. If a discussion of a model of the communication process is undertaken without a common meaning for the word 'process,' the discussion might result in distorted views about communication.

At least one definition of process is "any phenomena which shows a continuous change in time . . ." The Winston dictionary defines process thus: "the act of going on; advancing; progressing; . . ."

According to Berlo, the concept of process must be understood as interrelationships which are dynamic, on-going, ever-changing, continuous. He further explains that when we label anything as a process, we also mean that it does not have a beginning, an end, or a fixed sequence of events. It is not static, at rest. It is moving. The ingredients within a process interact; each affects all the others.<sup>1</sup> This bears out the point stated by this writer in Chapter I that the process of communication is necessarily a circular process. Berlo does maintain that in an attempt

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<sup>1</sup>D.K. Berlo, The Process of Communication, (New York: Holt Rinehart and Winston, 1960), p. 24.



to describe, discuss or in any way talk about this or any process, we must arrest the dynamic of the process to focus our attention on one ingredient,<sup>2</sup> (or component, as this writer prefers to call it). The analogy of the progress of time is revealing. All nature is in a state of flux or process of change. When we take a picture, it could be said we arrest motion with a camera. We are trying to show that our discussion of the process of communication will necessarily be distorted, yet extremely useful.

For purposes of this study, then, the writer offers some suggestions that the process is dynamic and circular, and that there is interaction between the components. The writer feels this is essential to gaining a clearer perception of the predominant para-linguistic features of the process of communication, and the use of these features in more effective communication. A number of authorities definitely do express the opinion that a correct knowledge will lead to a better understanding of the process. This clearer understanding should lead to more effectiveness in the process of actual communication. Berlo states it thus:

Knowledge of the communication process itself affects source behavior. What and how the source communicates depends on his ability to conduct an analysis of the process . . . . Knowledge of communication affects communication behavior.<sup>3</sup>

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<sup>2</sup>Ibid., p. 25

<sup>3</sup>Ibid., p. 48



What then is the process of communication? Eiserson believes that, "In a broad sense communication is any act by virtue of which one organization evokes behavior from another."<sup>4</sup> Applied more specifically to oral communication we can extract the notion of circularity, interaction, an encoder affecting a decoder. Eiserson says, "As with all forms of communication, the speaker is concerned with response, the tangible evidence of his influence upon the behavior of his hearer."<sup>5</sup>

Schramm goes from the broad definition that communication is not just mass communication but "all ways" in which information and ideas are exchanged and shared,<sup>6</sup> to a more restricted definition easily applicable to oral communication. "In its simplest form, the common process consists of a sender, a message, and a receiver."<sup>7</sup>

In Chapter I, the writer used Carroll's statement that linguistic studies of communication have been ineffectual because they excluded the para-linguistic features. Carroll reinforces this by referring to oral

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<sup>4</sup> J. Eiserson, Psychology of Communication, (New York: Appleton-Century Croft, 1963), p. 131.

<sup>5</sup> Ibid., p. 139.

<sup>6</sup> W.L. Schramm, Mass Communication, (Urbana: University of Illinois Press, 1960), p. 6.

<sup>7</sup> Ibid., p. 7.



communication as a total behavior, a fusion of ideas; a meeting of experience; a combination of articuality, sound, voice, and gesture.<sup>8</sup>

Eiserson, Auer and Irwin reinforce the notion that it is naive, in fact unrealistic, to say that communication is possible only through language, even though a major function of language is communication.<sup>9</sup>

The concern with communication has produced many attempts to develop models for the process -- descriptions, listing of ingredients. One of the most widely applied models is the one developed by Shannon. Of course, the various models differ. None can be said to be "right," or "true." Berlo sums up all these attempts at model construction in this way:

Many of these models are useful, but so many are based on the model developed in 1947 by Claude Shannon, a mathematician, and explained to the nonmathematician by Weaver. Shannon and Weaver were not even talking about human communication. They were talking about electronic communication.<sup>10</sup>

Berlo goes on to say that the models developed by Schramm, Westley and MacLean, Fearing, Johnson and others

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<sup>8</sup>J. Carroll, *The Study of Language*, (Cambridge: Harvard University Press, 1963), p. 129.

<sup>9</sup>Eiserson, op. cit., p. 117.

<sup>10</sup>Berlo, op. cit., p. 28.



are all similar in modes, but that they differ in terms used, or in the omission of some ingredients. The only way to understand the diversity of these models is to remember they are developed mainly from the point of view of the disciplines from which they emerged.

Communication theory as developed by communication engineers is concerned primarily with the efficiency of communications channels; in their theory the necessity arises of measuring the amount of information in a message in order to find out how much of the information gets through at the receiving end of the channel.

It was found necessary to find means of measuring the amount of information in a message so that the efficiency of a communication channel can be assayed by comparing the information at the destination.<sup>11</sup>

## II. STUDIES

The first systematic exposition of such a theory was presented by Shannon in 1948 in the Bell System Technical Journal -- reprinted in 1948 in a book by Shannon and Weaver, The Mathematical Theory of Communication. This was a broad theory of communication dealing with all procedures by which one mind may affect another. Attempts have been made to apply the theory to written and oral speech, music, pictorial arts, ballet -- in fact, all human behavior. This

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<sup>11</sup>Carroll, op. cit., p. 196.



was done,

with the aim of transferring this to include all procedures by means of which one mechanism (say automatic equipment to track an airplane and to complete its probable future positions) affects another mechanism (say a guided missile chasing the airplane).<sup>12</sup>

Cherry sees the mathematical model as much too stereotyped to be directly applied to oral communication.

In such technical systems, the commodity which is bought and sold, called information capacity, may be defined strictly on a mathematical basis, leading eventually to the concept of "quantity of information" and to theories of times and speed of signaling. It fails in almost equating human communication with one teletype machine communicating with another.<sup>13</sup>

The concern here, according to Carroll, is statistical probabilities of the various symbols which may occur in various positions of messages. This is where the word bit is used. Shannon has suggested that a convenient unit for measuring information is the bit.<sup>14</sup>

If not all choices are equally likely, the average information-carrying capacity per symbol units, in bits may be found by evaluating the expression

$$- \sum_{j=1}^n p_j \log_2 p_j,$$

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<sup>12</sup>C. Cherry, On Human Communication, (Cambridge: Massachusetts Institute of Technology, 1966), p. 41.

<sup>13</sup>Ibid., p. 41.

<sup>14</sup>Carroll, op. cit., p. 198.



when  $p_j$  is the probability of occurrence of symbol unit  $j$ , and the summation is over all  $n$  symbol units. It should be said that this and other calculations can be made only if one has tabulated frequencies from a large corpus of material.<sup>15</sup>

Supporting Cherry's position, Carroll goes on to say, that no workable application to oral communication has, as yet, been found:

The mathematical theory of communication has found considerable usefulness in a number of engineering applications. Its relevance in psychological investigation of communication has already been noted. Thus far, there has been little contact between communication theory and linguistic if one considers the national scene as a whole.<sup>15a</sup>

Cherry indicates that it was almost inevitable that this research should concern itself in large measure with the variables affecting the intelligibility of speech when transmitted over a communication channel. Much of this research was furthered in World War II with the attempt to design communication systems on ships, planes, and tanks.

In the main, the variables associated with the communications' systems themselves were studied. A number of practical applications concerning the design and use of communications systems and components were discovered. In general, it was found that speech intelligibility is highly resistant to the various types of distortion that can be introduced, and that no single dimension of distortion is critical.<sup>16</sup>

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<sup>15</sup>Ibid., p. 200.

<sup>15a</sup>Ibid., p. 201.

<sup>16</sup>Cherry, op. cit., p. 83.



We find other studies reflecting the influence of Shannon's theory and some independent of it.

Martin Joos, a linguist, developed a study of the characteristics of individual speech sounds of the various vowels and consonants. Lichlader and Miller attempted to consider the implication of Shannon's communication theory. They suggested that 50,000 decisions, or bits of information, per second is a good estimate of the "quantity of information" transmittable. Miller then focused attention upon the statistical dependencies among the units of a connected sample of speech. The mathematical model, for him is that of a "discrete markoff process." With the aid of this theory, Miller computed the amount of information likely to be contained in typical samples of speech, as well as the average amount of redundancy in English.<sup>17</sup>

E.B. Newman in 1951 reported a comparative study of the autocorrelation functions of a number of languages, including English, French, Italian, and German. He studied only the autocorrelation of vowels in contrast to consonants, and based his analysis on texts in these languages.

Whorf in 1940 and Harris in 1951 have given schematic descriptions of the English monosyllabic words in terms of

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<sup>17</sup> Ibid., p. 85.



its permissible and nonpermissible sequences of phonemes.

Bavelos in 1950 has reported research on the behavior of task-oriented groups of people arranged in various types of communication nets.

Carnap's study is based upon inductive logic, and presents theorems about conditional statements, such as, for example,  $\text{cont } (j/l) = \text{cont } (i + j) - \text{cont } (i)$ , which bears superficial resemblance to Shannon's theory.

The writer feels that many of the studies rely heavily on the "information theory" of Shannon; many show concern only about each of the small units but not about the circularity of the process.

The communication theory is considered to be strictly a mathematical theory; the alphabet of signs is assumed given, and the probabilities are relative frequencies, or density functions. If this is not the case, we are not entitled to speak of information numerically, in binary digits, or bits.<sup>18</sup>

Katz and Lazafeld report studies done in the field of mass communication.

We are suggesting that the over-riding interest of mass media research is in the study of the effectiveness of mass media attempts to influence -- usually to change -- opinions and attitudes in the very short run. Perhaps this is best described as an interest in the effects of mass media "campaigns" -- campaigns to influence votes, to sell soap, to reduce prejudice.<sup>19</sup>

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<sup>18</sup>Ibid., p. 276.

<sup>19</sup>E. Katz and P.F. Lazafeld, Psychology of Communication, (Glencoe: Free Press, 1965), p. 18.



These authors, as well as Cherry, Schramm, Saitz and others give details of work in psychological techniques that are likely to be most effective; for example, the use of repetition, appeals to authority, the use of band wagon techniques.

There are also reports of well developed research relative to the channels through which information from the world flows into remote villages. Eisenstadt (1952) did a study of the effect of cultural differences on integration and absorption into a new country.<sup>20</sup>

As stated earlier, each of these models is an outgrowth of a specific discipline, or each was developed for some specific purpose. Our purpose in summarizing and reporting some of the studies more commonly referred to in the literature on communication, is to show that none of these models, as they are, could serve the purposes of this study; however, they do indicate the dynamic nature of the process.

### III. DEVELOPMENT OF THE MODEL

The model to be used in this study was designed by the investigator, but relies on the models designed and used

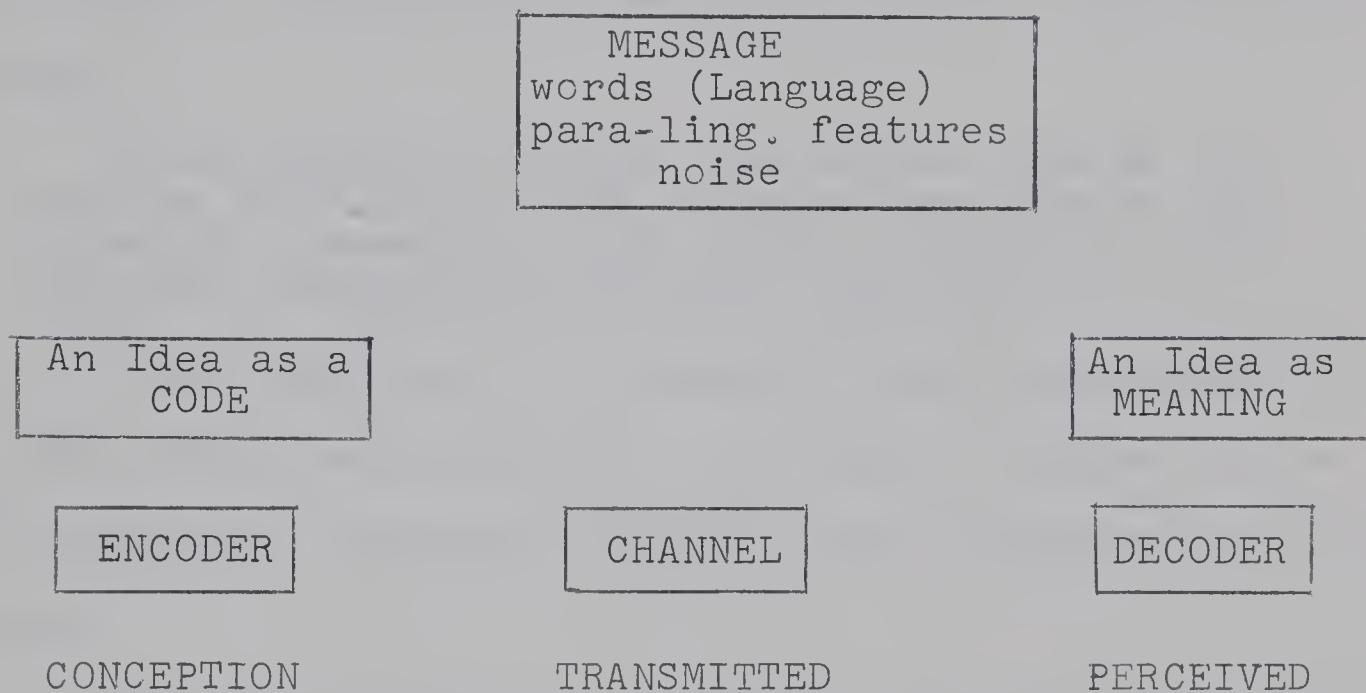
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<sup>20</sup>Ibid., p. 125.



by Berlo and Carroll. The model used here aims at a greater simplicity so as to be able to focus more exclusively on the area under study -- the predominant para-linguistic features which aid more effective communication.

#### MODEL OF PROCESS OF COMMUNICATION



The components of this process are:

1. An idea is conceived in the mind of the encoder.
2. This idea conceived by the encoder is transmitted over a channel. Here is the strongest point of difference with other models. For purposes of this study language was not posited as the only channel in oral communication. Language must be reinforced by the para-linguistic features and abetted by channel noise often called channel interference.



3. An individual, designated as the decoder in this thesis, must endeavor to perceive the idea as transmitted. In thus perceiving the message, the decoder or receiver is essential for providing feedback and completing the circularity of the process.

A break in any component of the process merely means that no communication has taken place. Berlo states it thus:

In psychological terms, the source intends to produce a stimulus. The receiver responds to that stimulus if communication occurs; if he does not respond, communication has not occurred.<sup>21</sup>

Since the writer has aimed at great simplicity in the model presented, attention will now be focused on the para-linguistic features involved in the transmission of the message.

As some authorities referred to earlier note, the receiver will be more likely to decode a message accurately if he can see it and hear it at the same time. Hence, in effective communication, the receiver is a very important link in the communication process. If the encoder does not communicate his message to the decoder he might as well have talked to himself. In order to reach his decoder more effectively, the encoder attempts to discover, arrange and present his message to elicit the meaning he intends. Here

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<sup>21</sup>Berlo, op. cit., p. 31.



para-linguistic features serve to emphasize, reinforce, parallel or substitute for the actual words employed.

Cherry speaks at length of the importance of para-linguistic features in making oral communication more efficient.

Language cannot give precise representation of things or ideas . . . . Especially in the area of emotions, are words inadequate. Gestures, signs, extra-linguistic features are employed to parallel or enhance the meaning of the words, -- often to substitute completely.<sup>22</sup>

He goes on to say:

The speaker does not communicate his thoughts to us; he communicates a representation for carrying out this function, under the severe discipline of using only the materials he has, sound and gesture.<sup>23</sup>

Another authority, Warfel, says substantially the same.

Language is only one method of transmitting organized, meaningful signals from one person to another.

Non-language modes of message-sending often accompany or occasionally replace language; they serve as adjuncts to vocal utterance rather than as independent systems . . . . In the total communication process they merit consideration, but they are not language in our sense of the term.

In ordinary conversation it is taken for granted that a speaker has command of the code and of the vocabulary. Yet nearly everyone at times is unable to finish a sentence because of its structure or to find the right word. By means of gestures and noises a speaker can compensate for these lapses.<sup>24</sup>

<sup>22</sup> Cherry, op. cit., p. 70.

<sup>23</sup> Ibid., p. 74.

<sup>24</sup> H.R. Warfel, Language, A Science of Human Communication, (Cleveland: H. Allen Company, 1962), p. 33.



We can introduce great expression and flexibility into our vocal utterances by stressing, speed and pitch . . . . Even more subtle and compact are gestures . . . . When speaking to a friend on the telephone, sight plays no part, and normal gesture reinforcement is lost, which is partly replaced by changing our habits of speech.<sup>25</sup>

The following statement by Berlo appears to summarize the notion of the circularity of the process:

We know that two channels are usually better than one, that a receiver will be more likely to decode a message accurately if the oral message encoded in words is reinforced by gestures.

We cannot isolate the ingredients one at a time when we are making communication decisions -- all the ingredients of communication are interlocked and are independent. Again, communication is a process. All we are suggesting now is that all messages must be transmitted through a channel and that the choice of channel is important in determining the efficiency and effectiveness of communication.<sup>26</sup>

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<sup>25</sup>Cherry, op. cit., p. 79.

<sup>26</sup>Berlo, op. cit., p. 68.



## CHAPTER III

### DESIGN

#### I. DEVELOPMENT OF THE INSTRUMENT

Interest and concern regarding the entire issue of effective communication grew out of the writer's long contact with classroom teachers, especially on supervisory duties as a principal. Why is it that two educators with comparably fine academic records are not at all comparable as effective communicators? Wide reading, contact with student teachers, and, above all, classes in "Linguistics" and "Teaching English as a Second Language," served to crystallize the observation that effective communication, the clear conveying of a message from an encoder to a decoder, involves other features in addition to the language itself.

To arrive at some type of instrument, the writer recorded each time an extra-linguistic feature of the language involved in the communication process was referred to by authorities. From readings in Lado, Fries, Sweet, Strevens, Berlo, Carroll, Katz, Hall and others, some definite consensus emerged in this summary.\* This survey of the literature produced eighteen features, some of

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\*See Bibliography.



which were merely extensions or restatements of other points. If any feature was referred to by only one or two of these linguistic authorities, the feature was not included in the instrument as significant. Hence, the instrument (see appendix A) was developed with eight most predominant para-linguistic features, each of which was mentioned by at least three authorities.

## II. PILOT STUDY .

When the original instrument was developed, it consisted of a nine-point scale with three divisions on a continuum 1, 2, 3, (weak); 4, 5, 6, (medium); 7, 8, 9, (strong). To aid in refining the rating scale, the instrument was submitted to eighty-six students at the University of Alberta. From the comments, suggestions, and criticism of students and professors, it became evident that the rating scale of the instrument was too confusing. The investigator concluded that the rating scale would be more meaningful, while still conveying the information sought, if the numbers were reduced from nine to five. The number three would, hence, serve as a neutral rating.

Also, since the purpose of the study was to be related more directly to the classroom teacher, it was considered advisable to submit the instrument to senior high school students. An instrument referring to the encoding component in the communication process was thus



developed.

Even though there had been an attempt to improve and refine the instrument by submitting it to some university students, it was found that the first and second senior high school classes were confused when rating the most effective communicator anywhere near the lower end of the continuum. This same confusion was manifest in rating the weakest communicator as a four or five for any specific feature. Because the confusion seemed to result from the misunderstanding of the directions, they were clarified. Thus direction five and six now made it clear that a best communicator would not necessarily rate high on all eight features, or that a weakest communicator would necessarily rate low on all eight features. The final directions follow.

### III. FINAL DIRECTIONS

(given orally to each class)

1. Authorities seem to indicate that when we COMMUNICATE, or attempt to convey meaning, the idea in the mind of the encoder (sender) (refer to diagram on the board), must be as nearly as possible, the idea in the mind of the decoder (receiver). There are many features not specifically words. The whole person enters into this process in an endeavor to communicate. Authorities suggest that these features called "para-linguistic" features of the language do aid one in being more



effective in communication.

In reporting on my thesis idea I would like your reactions to the features I gathered from my reading of some authorities.

2. Has each of you a pen or pencil?

Draw a line vertically after 1, 2, after 3, and after 5. (Demonstrate on board.) 1 and 2 indicate a weak rating, 3 is neutral, 4 is better, and 5 is superior rating.

3. Please, place no identification on your papers.
4. In the upper right hand corner, indicate the number of teachers you have this school term.
5. Now, think exclusively of the teacher you consider most skilled in the process of communicating ideas clearly to you. Rate him on the one to five scale by placing a check beside each feature.

Please, remember one specific teacher may be, in your estimation, the most effective communicator yet be weak in one or other of the features listed. This is, of course, true of a weak communicator who may be strong in a specific feature.

(Pause)

6. Now, think exclusively of the teacher you consider most ineffective in transmitting ideas to you, and rate this teacher on the one to five scale.

(Pause)



7. At the bottom or reverse of your paper, please add any features you feel are predominant, but which are not included on my instrument.
8. Thank you sincerely.

#### IV. SELECTION OF SCHOOLS AND SUBJECTS

With the cooperation of the superintendent of the Edmonton Separate School System who supplied the names of the principals of the larger senior high schools in his system who were willing to make grade eleven classes available for purposes of this study, ten classes were selected by random sampling using the lottery method. (A list of all cases was made and numbers were assigned to each case consecutively. These numbers were written on identical slips of paper, placed in a receptacle, mixed thoroughly, and the number of slips required for the sample was drawn from the receptacle.)

Times for the visits to the respective classrooms were arranged at the convenience of the principals. With the willing cooperation of the classroom teachers, the first portion of each teaching period was obtained to administer the instrument. After being told the reason for the administering of the instrument, the students, as a whole, were willing to cooperate. The instrument was distributed and the directions were given orally.



## V. TREATMENT OF THE DATA

The data collected from the eight classes, after exclusion of the first two classes used in the pilot study, were recorded. Totals for each of the features were recorded. Combined totals for column four and five were also given.

Percentages were determined to emphasize the importance students place on the various features suggested by some authorities as predominant for effective communication.

The Kolmogorov-Smirnov one-sample test was chosen to compare the observed distribution of scores obtained with a theoretical distribution. The region of rejection consisted of all values of D which were so large that the probability associated with their occurrence under  $H_0$  is less than  $\alpha = .01$ .

The comments of the students appended to the instrument were summarized and recorded. The number of students who indicated each feature was listed.

The comments submitted by eight teachers regarding what they consider as predominant para-linguistic features of the decoding component of the communication process were recorded.

These features and those gathered to develop the instrument for the encoding component were presented as a



checklist which could be developed to serve as a tool for self-appraisal for teachers and student teachers.



## CHAPTER IV

### RESULTS OF THE INVESTIGATION

The instrument was administered to the grade eleven classes in order to ascertain whether these students consider the para-linguistic features of the language suggested by some authorities as predominant in the communication process.

A total of 185 instruments were analyzed. Since students were free to leave any specific feature unrated, if they felt uncertain about this feature, it is significant that out of a possible total of 7,400 ratings for best communicator and 7,400 ratings for weakest communicator (8 features x 5 ratings = 40 x 185 students = 7,400 possible) only eight ratings were missing.

#### I. Total for Best Communicator

Table I contains the distribution of choices for the features poise, position, head, facial expression, distance maintained, eye movement, intonation, and hand gestures as they apply to the best communicator. The total distributions for these same features were converted to percentages, which are summarized in Table II. Each choice proved significant at the .01 level.



TABLE I  
TOTALS FOR BEST COMMUNICATOR

ENCODER (SENDER)	1	2	3	4	5	Totals for 4 & 5	Total
1. POISE (fidgets, easy stance)	2	2	19	85	77	162	185
2. POSITION (rigidly maintained, naturally relaxed)	3	8	18	60	94	154	183
3. HEAD (rigid, reinforcing)	3	8	25	64	85	149	185
4. FACIAL EXPRESSION (unchanging, animated)	3	4	42	50	86	136	185
5. DISTANCE (remote, comfortably involved)	3	12	35	65	69	134	184
6. EYE MOVEMENT (no contact, empathetic overview)	3	8	39	62	73	135	185
7. INTONATION (dull, appreciably varied)	7	4	29	68	76	144	184
8. HAND GESTURES (awkward, reinforcingly appropriate)	7	9	33	61	75	136	185

The total of 185 students completed the instrument with the distribution of choices as shown. Out of a possible 7,400 responses only four are missing.



TABLE II  
PERCENTAGES FOR BEST COMMUNICATOR

ENCODER (SENDER)	1	2	3	4	5	Total for 4 and 5
1. POISE	1.1	1.1	10.3	45.9	41.6	87.5
2. POSITION	1.6	4.3	9.7	32.4	50.8	83.2
3. HEAD	1.6	4.3	13.5	34.3	43.2	77.5
4. FACIAL EXPRESSION	1.6	2.2	22.7	27.0	46.5	73.5
5. DISTANCE	1.6	6.5	18.9	35.1	37.3	72.4
6. EYE MOVEMENT	1.6	4.3	21.1	33.5	39.5	73.0
7. INTONATION	3.8	2.2	15.7	36.8	41.1	77.9
8. HAND GESTURES	3.8	4.9	17.8	33.0	40.5	74.5

The totals of the 185 student responses summarized in Table I are converted to percentages in this Table II.



An examination of the tables yields the following information:

POISE -- received the combined total of 162 for ratings four and five out of a possible 185. This total is 87.5 per cent of the total ratings. The distribution of choices was 2, 2, 19, 85, and 77 with a significance at the .01 level. The  $H_0$  was rejected and the conclusion drawn that the students indicated significant preferences in favouring one of the ranks.

POSITION -- received the cumulative total of 154 for ratings four and five. This constitutes 83.2 per cent of the total. Since the distribution of 3, 8, 18, 60, and 94 proved significant at the .01 level, the  $H_0$  was rejected.

HEAD -- received the combined total of 149 for column four and five, constituting 77.5 per cent of the possible ratings. The distribution of 3, 8, 25, 64, and 85 showed that the students indicated significant preferences in favouring one of the ranks.

FACIAL EXPRESSION -- scored a total of 136 for column four and five. Referring to Table II, this is 73.5 per cent of the ratings. The  $H_0$  was rejected and the conclusion made that the students indicated significant preferences in favouring one of the ranks, since the distribution was 3, 4, 42, 50, and 86.

DISTANCE MAINTAINED -- received 72.4 per cent with the combined total of 134 for column four and five. The



distribution of 3, 12, 35, 65, and 69 indicates significant preferences by the students.

EYE MOVEMENT -- received 73.0 per cent with the combined total of 135 for column four and five. The distribution of 3, 8, 39, 62, and 73 showed significant preferences in student choices.

INTONATION -- received the combined total of 144 for column four and five. This represents 77.9 per cent of the ratings. The  $H_0$  was rejected and the conclusion drawn that the students indicated significant preferences in favouring one of the ranks. The distribution of the preferences was 7, 4, 29, 68, and 76.

HAND GESTURES -- received the combined total of 136 for the ratings four and five. This represents 74.5 per cent of the total ratings with a distribution of 7, 9, 33, 61, and 75. This distribution proved significant at the .01 level.

## II. Summary

These findings for the best communicator seem to indicate that the students attached high ratings to all eight features suggested by the authorities. The percentages range from 72.4 to 87.5 for column four and five.

The students gave highest rating to poise with 87.5 per cent, position 83.2 per cent, intonation 77.9 per cent, and head movement 77.5 per cent.



Distance maintained with 72.4 per cent, eye movement with 73.0 per cent, and facial expression with 73.5 per cent can still be considered high ratings. These features are only slightly less significant in the students' rating than the four referred to in the preceding paragraph.

### III. Level of Significance

All items for best communicator were significant at the .01 level when the Kolmogorov-Smirnov one-sample test was chosen to compare the observed distribution of scores obtained with a theoretical distribution.

### IV. Totals for Weakest Communicator

Table III contains the distribution of choices for the features poise, position, head, facial expression, distance maintained, eye movement, intonation, and hand gestures as they apply to the weakest communicator. The total distributions for these same features were converted to percentages, which are summarized in Table IV.



TABLE III  
TOTALS FOR WEAKEST COMMUNICATOR

ENCODER (SENDER)	1	2	3	4	5	Total for 1 & 2	Total
1. POISE (fidgets, easy stance	32	74	54	21	3	106	184
2. POSITION (rigidly maintained, naturally relaxed	41	63	52	23	6	104	185
3. HEAD (rigid, reinforcing	37	60	56	26	5	97	184
4. FACIAL EXPRESSION (unchanging, animated)	58	52	43	19	11	110	183
5. DISTANCE (remote comfortably involved)	61	60	32	23	9	121	185
6. EYE MOVEMENT (no contact, empathetic overview)	47	57	54	20	7	104	185
7. INTONATION (dull, appreciably varied)	77	59	30	8	9	136	183
8. HAND GESTURES (awkward, rein- forcingly appropriate)	60	66	37	18	4	126	185

The total of 185 students completed the instrument with the distribution of choices as shown. Out of a possible 7,400 responses, only four were missing.



TABLE IV  
PERCENTAGES FOR WEAKEST COMMUNICATOR

ENCODER (SENDER)	1	2	3	4	5	Total for 1 & 2
1. POISE	17.3	40.0	29.2	11.4	1.6	57.3
2. POSITION	22.2	34.1	28.1	12.4	3.2	56.3
3. HEAD	20.0	32.4	30.3	15.1	2.7	52.4
4. FACIAL EXPRESSION	31.4	28.1	23.2	10.3	5.9	59.5
5. DISTANCE	33.0	32.4	17.3	12.4	4.9	65.4
6. EYE MOVEMENT	25.4	30.8	29.2	10.8	3.8	56.2
7. INTONATION	42.7	31.6	16.3	4.3	4.9	74.3
8. HAND GESTURES	32.4	35.7	20.0	9.7	2.2	68.1

The totals of the 185 student responses summarized in Table III are converted to percentages in this table.



An examination of the tables yields the following information:

POISE -- received the combined total of 106 for column one and two. This represents 57.3 per cent of the total. The distribution of 32, 74, 54, 21, and 3 led to the conclusion that the students could not indicate significant preferences in favouring one of the ranks for the feature of poise.

POSITION -- received the combined total of 104 for column one and two. This constitutes 56.3 per cent of the total ratings. The level of significance was such that the  $H_0$  was accepted for the distribution of 41, 63, 52, 23, and 6.

HEAD -- received the combined total of 97 for column one and two, constituting 52.4 per cent of the possible ratings. The distribution of 37, 60, 56, 26, and 5 showed that the students could not indicate significant preferences in favouring one of the ranks.

FACIAL EXPRESSION -- scored a total of 110 for columns one and two. This represents 59.5 per cent of the ratings. The distribution of 58, 52, 43, 19, and 11 showed that the students could not indicate significant preferences in favouring one of the ranks.

DISTANCE MAINTAINED -- received 65.4 per cent with the combined total of 121 for column one and two. The distribution of 61, 60, 32, 23, and 9 showed that the



students could not indicate significant preferences in favouring one of the ranks.

EYE MOVEMENT -- received 56.2 per cent with the combined total of 104 for column one and two. Since the distribution of 47, 57, 54, 20, and 7 was not significant at the .05 level, the  $H_0$  was accepted.

INTONATION -- received the combined total of 136 for column one and two. This represents 74.3 per cent of the total ratings. The distribution of 77, 59, 30, 8, and 9 showed that the students could not indicate significant preferences in favouring one of the ranks.

HAND GESTURES -- received the combined total of 126 for the ratings one and two. This represents 68.1 per cent of the total ratings. The  $H_0$  was accepted since the distribution of 60, 66, 37, 18, and 4 showed that the students could not indicate significant preferences in proving one of the ranks.

## V. Summary

These findings for the weakest communicator seem to indicate that the students could not indicate significant preferences for any of the eight features.

The combined totals for the low ratings of one and two range from 97 to 136 out of a possible 185. The percentages, as summarized in Table IV, range from 52.4 per cent up to 74.3 per cent. Earlier it was indicated that for best



communicator, the students' choices represent percentages of from 72.4 to 87.5 for column four and five

The students gave highest ratings to intonation with 74.3 per cent, hand gestures with 68.1, and distance maintained with 65.4 per cent. However, none of these choices indicate significant preference at the .05 level.

The additional comments made by the students to whom the instrument was submitted are summarized here.

#### VI. Students' Written Comments

<u>Number of Students</u> <sup>*</sup>	
26	He talks too loud and he seems to be in too much of a rush.
21	He has little patience.
23	He talks a lot, but just seems like a bunch of words.
26	Seems clever but can't get across what he wants.
19	Forces it down your throat as if she has failed in some way and can't get the point across fast enough or give its importance.
14	Very intelligent and modern in approach.
20	He's a bear; he doesn't know how to communicate with his class so he always reads directly from the book.
12	A teacher who makes an effort to understand the kids and why they act the way they do, fits in with the class and gets the students under their (sic) power.
27	You covered the main points outside of what is simply words, words.

<sup>\*</sup>Students wrote more than one comment.



These comments are a summary of the remarks added to the instrument by twenty-seven of the 185 students who completed the instrument. Another sixty-four merely put a check at the bottom of the instrument with a general comment such as "pretty well covered."

### VII. Features in Decoding Component

The findings for para-linguistic features in the decoding component of the communication process as submitted by eight teachers are recorded below. These features are in summarized form. It would seem that the teachers rely heavily on questions for oral 'feedback.' It seems evident that the main feature relied upon by teachers in the decoder is eye contact. Teachers' comments indicate that they conclude that there is a certain intensity in focusing on the encoder when the message is received. If the encoder is unsuccessful in reaching the decoder, the decoder is most probably letting his eyes wander aimlessly. All the teachers indicated that the attentive posture of the decoder, as opposed to the lethargic posture are used by the encoder as significant feedback. Again, all the teachers indicated the perception on their part that head nodding or shaking serve as adequate feedback from the decoder. Five of the eight teachers rely on the facial expression of the decoder to aid them in ascertaining the reception of the message. Four of the eight teachers felt they could be certain of the



fact that the message had been received by the students if they perceived some overt reaction by these students. This overt reaction can range from apathetic reaction to displays of curiosity or anger.



## CHAPTER V

### SUMMARY, IMPLICATIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

#### I. Purpose

This study was undertaken to investigate the predominant para-linguistic features of the language in the communication process because, by and large, this area of communication has been neglected in studies on communication.

#### II. Procedure

An instrument was developed as a compilation of the predominant para-linguistic features of the encoding component in the communication process. The features used to develop the instrument were those suggested by some authorities in the field. This instrument was submitted first to eighty-six university students as part of the pilot study, then to two classes of grade eleven students of the Edmonton Separate School System.

In the study itself, 185 grade eleven students of the Edmonton Separate School System cooperated in the rating of a best and a weakest communicator.

The reactions and comments of eight teachers were considered to arrive at some para-linguistic features in the decoding component. These features are used as 'feedback' by teachers and were an aid to the writer in compiling the checklist for self-appraisal, Appendix D.



### III. Treatment of the Data

The ratings of the 185 students of a best and weakest communicator were summarized in the Tables I and III. Totals in each of the cells were recorded separately, then combined totals for the collapsed cells four and five were also recorded. A comparative table of totals is found in Table I, Appendix C.

Percentages for Best Communicator are found in Chapter IV, Table II; for Weakest Communicator in Chapter IV, Table IV; and in a comparative table in Appendix C, Table II.

The Kolmogorov-Smirnov one-sample test was chosen to compare the observed distribution of scores obtained with a theoretical distribution. The region of rejection consisted of all values of D which were so large that the probability associated with their occurrence under  $H_0$  is less than  $\alpha - .01$ .

The comments of the students appended to the instrument were summarized and presented.

The comments submitted by eight teachers were summarized. These comments constitute some para-linguistic features considered as feedback in the decoding component of the communication process.

### IV. General Observations

One hundred per cent of the students in the classes willingly completed the instrument. One hundred eighty-five instruments were analyzed. Of the one hundred eighty-five



students, only fourteen per cent of the students added comments in addition to the features listed on the instrument.

## V. Findings

1. The findings reported in detail in Chapter IV indicate a .01 level of significance for best communicator. The students were able to indicate significant preferences in favouring one of the ranks. However, these same students were not as perceptive in rating the weakest communicator. They were not able to indicate significant preferences in favouring one of the ranks.

2. The ratings on Table I indicate that when totals for column four and five were combined, the combined ratings ranged from 134 to 162 for best communicator.

3. The ratings on Table III indicate that when totals for column one and two were combined, the combined ratings range from 97 to as high as 136 for weakest communicator.

4. Table II records that when the percentages for column four and five were combined, the percentages ranged from 72.4 to as high as 87.5 for best communicator.

5. Table IV indicates that when the percentages for column one and two were combined, the percentages ranged from 52.4 to as high as 74.3 for weakest communicator.

6. The students' choices showed a significance at the .01 level for the para-linguistic features related to best



communicator, but did not indicate significant preferences in their ratings for weakest communicator.

7. Appendix D, Table II indicates some of the features considered by teachers as feedback.

#### VI. Implications

This study indicates that there appears to be a consensus of opinion among some authorities regarding which are predominant para-linguistic features in the encoding component.

1. That the students consider these para-linguistic features important for best communicator is indicated in this study by the following evidence:

- (a) When totals for column four and five are combined, ratings range from 134 to a high of 162 out of a possible 185.
- (b) When percentages for column four and five are combined, the percentages range from 72.4 to a high of 87.5.

2. Though not as conclusive as the totals for best communicator, the ratings for weakest communicator are as follows:

- (a) When totals for column one and two are combined, the ratings range from 97 to a high of 136 out of a possible 185.
- (b) When percentages for column one and two are combined, the percentages range from 52.4 to



a high of 74.3.

3. The  $H_0$  can be rejected and the conclusion drawn that the students indicated significant preferences in favouring one of the ranks in ratings for best communicator. The Kolmogorov-Smirnov one-sample test was applied to determine a significance at the .01 level.

4. The students are not as perceptive in discerning and rating the para-linguistic features in the weakest communicator. The students did not indicate significant preferences in favouring one of the ranks. None of the choices were significant at the .05 level.

Since this is an introductory study, the implications of this investigation apply only to the area under study and to the students of the grade eleven level. The implications do show some positive agreement among some linguistic authorities and the opinions of students. The students gave high ratings to all eight features suggested by the authorities. Though students were invited to add other para-linguistic features to those appearing on the instrument, many indicated that those listed were predominant. It seems evident that the students find it difficult to assign significant preferences to the features which were rated low in the weakest communicator. The writer admits this same inability to analyze deficiencies in weak communicators when dealing with student teachers.



Saporta in Psycholinguistics asserts:

Purely linguistic studies of language in contact must be coordinated with extra-linguistic features.<sup>1</sup>

It seems reasonable to conclude that communicators are more effective if they employ predominant para-linguistic features when communicating orally.

The findings of this study might suggest that more emphasis be placed on the area of para-linguistic features in a methods' course for student teachers at the university. In this age, in which oral communication is of paramount importance, it is almost mandatory that educators be knowledgeable in the area of the communication process and specifically of the para-linguistic features in this process.

The writer's personal experience with student teachers who failed to communicate well seems to suggest that it is difficult to analyze and perceive exactly the areas in which these weaker communicators fail. The grade eleven students also manifest this inability to indicate significant preferences. Table I shows distributions of 2, 2, 19, 85, and 77 and 3, 4, 42, 50, and 86, while Table III shows less significant distributions of 32, 74, 54, 21, 3, and 58, 52, 43, 19, 11.

It seems valid to conclude that teachers are not too concerned about the decoding component in the communication process. From the remarks and comments of teachers. the

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<sup>1</sup>S. Saporta, Psycholinguistics, (New York: Holt, Rinehart and Winston, 1961), p. 241.



conclusion can be drawn that the prime concern of many teachers is to lecture, to pour out knowledge. If students are able to make significant choices in rating the para-linguistic features predominant in effective communication, then teachers should become more cognizant of the features in the decoder which indicate that the message is being received and comprehended. The checklist compiled in Appendix D, Tables I and II, could prove beneficial as a self-appraisal instrument for teachers.

The writer suggests that the entire high school program, and the English program specifically, could prove more beneficial to students by providing more opportunities for oral communication. Students could learn to improve their own use of para-linguistic features when communicating orally. They could also become more critically aware of the effective use of para-linguistic features by television personnel or other public speakers.

#### VII. Suggestions for Further Research

1. This study was conducted with the cooperation of 185 grade eleven students. The findings and implications summarized in the preceding pages are therefore valid only for students in the schools used in this study at that age and maturation level. This writer believes that similar studies with other classes at a grade nine or grade twelve level would be extremely valuable in indicating whether similar results can be obtained.



2. A study similar to this one, based upon the predominant para-linguistic features in the communication process could be conducted profitably with the student teachers. The writer realizes, from personal experience with student teachers, that they were not sufficiently alerted to this facet of communication.

If a study in the form of a self-appraisal project were conducted prior to student teaching and then a comparative study done upon completion of student teaching, the results should prove beneficial in developing para-linguistic features in the communication process.

3. Even though teachers were able to ascertain some para-linguistic features that they used as feedback in the decoding component, most of the teachers relied heavily on questions and verbal feedback. The entire area of feedback should be investigated. As Berlo says, "If we limit our discussion to effective communication, the receiver is the most important link in the communication process.<sup>2</sup>

4. The instrument used in this study could be developed further to include the para-linguistic features in the decoding component. This new and perfected instrument could be used in future studies.

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<sup>2</sup>Berlo, op. cit., p. 52



5. Since the students were able to indicate significant preferences at the .01 level in favouring one of the ranks in choices for the best communicator, yet showed no significant preferences in choices for the weakest communicator, it would seem that this latter area needs further investigation. A future study might reveal why students seem to be less perceptive of the para-linguistic features in weakest communicators. This investigation should serve to aid teachers to improve their oral presentations.
6. Following the study indicated above, some controlled investigations could be conducted at the high school level. These studies could involve actual study and evaluating of public speakers, television debaters, politicians and advertisers. From these studies might come valuable conclusions regarding what type of influence these public figures exert. Do people actually consider the implications of the verbal messages, or do people allow themselves to be swayed by the personality and the extra-linguistic features of the communicator? This type of study should prove beneficial to the participating students. These students could become more sophisticated listeners and more intelligent critics in an age when there is much oral communication.



7. In the educational system there is currently much emphasis on programmed learning. Many and varied types of machines are being introduced into the classroom in an endeavor to facilitate learning. This study could be followed by further study regarding the effect of machines on communication. The effect of machines generally on the entire educational system needs to be researched before machines are introduced on a wholesale scale simply because they are an innovation.
8. This investigation was conducted by having students in grade eleven rate both a best and weakest communicator. Other investigations might be designed in an attempt to measure retention of learning following instructions by a communicator who rated low in use of para-linguistic features.  
It would seem that if any of these studies were conducted by teachers actually employed in educational systems, these teachers would become alerted to the complexity of effective communication. Knowledge of para-linguistic features considered predominant might also improve the skill of the respective teachers as oral communicators. Becoming effective communicators seems vitally important for anyone involved in education.



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## APPENDIX A

INSTRUMENT FOR ENCODING COMPONENT FOR  
PREDOMINANT PARA-LINGUISTIC FEATURES

ENCODER (SENDER)	BEST					WEAKEST				
	1	2	3	4	5	1	2	3	4	5
1. POISE (fidgets, easy stance)										
2. POSITION (rigidly maintained, naturally relaxed)										
3. HEAD (rigid, reinforcing)										
4. FACIAL EXPRESSION (unchanging, animated)										
5. DISTANCE (remote, comfortably involved)										
6. EYE MOVEMENT (no contact, empathetic overview)										
7. INTONATION (dull, appreciably varied)										
8. HAND GESTURES (awkward, reinforcingly appropriate)										



## APPENDIX B

TABLE I

## TOTALS FOR BEST COMMUNICATOR

ENCODER (SENDER)	1	2	3	4	5	Total for 4 and 5	Total
1. POISE (fidgets, easy stance)	2	2	19	85	77	162	185
2. POSITION (rigidly maintained, naturally relaxed)	3	8	18	60	94	154	183
3. HEAD (rigid, rein- forcing)	3	8	25	64	85	149	185
4. FACIAL EXPRESSION (unchanging, animated)	3	4	42	50	86	136	185
5. DISTANCE (remote, comfortably involved)	3	12	35	65	69	134	184
6. EYE MOVEMENT (no contact, empathetic overview)	3	8	39	62	73	135	185
7. INTONATION (dull, appreciably varied)	7	4	29	68	76	144	184
8. HAND GESTURES (awkward, rein- forcingly appropriate)	7	9	33	61	75	136	185

The total of 185 students completed the instrument with the distribution of choices as shown. Out of a possible 7,400 responses, only four are missing.



TABLE II  
PERCENTAGES FOR BEST COMMUNICATOR

ENCODER (SENDER)	1	2	3	4	5	Total for 4 and 5
1. POISE	1.1	1.1	10.3	45.9	41.6	87.5
2. POSITION	1.6	4.3	9.7	32.4	50.8	83.2
3. HEAD	1.6	4.3	13.5	34.3	43.2	77.5
4. FACIAL EXPRESSION	1.6	2.2	22.7	27.0	46.5	73.5
5. DISTANCE	1.6	6.5	18.9	35.1	37.3	72.4
6. EYE MOVEMENT	1.6	4.3	21.1	33.5	39.5	73.0
7. INTONATION	3.8	2.2	15.7	36.8	41.1	77.9
8. HAND GESTURES	3.8	4.9	17.8	33.0	40.5	74.5

The totals of the 185 student responses summarized in Table I are converted to percentages in this Table II.



TABLE III  
TOTALS FOR WEAKEST COMMUNICATOR

ENCODER (SENDER)	1	2	3	4	5	Total for 1 and 2	Total
1. POISE (fidgets, easy stance)	32	74	54	21	3	106	184
2. POSITION (rigidly maintained, naturally relaxed)	41	63	52	23	6	104	185
3. HEAD (rigid, reinforcing)	37	60	56	26	5	97	184
4. FACIAL EXPRESSION (unchanging, animated)	58	52	43	19	11	110	185
5. DISTANCE (remote, com- fortably involved)	61	60	32	23	9	121	185
6. EYE MOVEMENT (no contact, empathetic overview)	47	57	54	20	7	104	185
7. INTONATION (dull, appreciably varied)	77	59	30	8	9	136	183
8. HAND GESTURES (awkward, rein- forcingly appropriate)	60	66	37	18	4	126	185

The total of 185 students completed the instrument with the distribution of choices as shown. Out of a possible 7,400 responses, only four were missing.



TABLE IV  
PERCENTAGES FOR WEAKEST COMMUNICATOR

ENCODER (SENDER)	1	2	3	4	5	Total for 1 & 2
1. POISE	17.3	40.0	29.2	11.4	1.6	57.3
2. POSITION	22.2	34.1	28.1	12.4	3.2	56.3
3. HEAD	20.0	32.4	30.3	15.1	2.7	52.4
4. FACIAL EXPRESSION	31.4	28.1	23.2	10.3	5.9	59.5
5. DISTANCE	33.0	32.4	17.3	12.4	4.9	65.4
6. EYE MOVEMENT	25.4	30.8	29.2	10.8	3.8	56.2
7. INTONATION	42.7	31.6	16.3	4.3	4.9	74.3
8. HAND GESTURES	32.4	35.7	20.0	9.7	2.2	68.1

The totals of the 185 student responses summarized in Table III are converted to percentages in this table.



## APPENDIX C

TABLE I

## COMPARING TOTALS BY FEATURES

ENCODER (SENDER)	1	2	3	4	5	K - S	Best	Weakest
						D		
1. POISE	2 32	2 74	19 54	85 21	77 3	.475 <sup>¶§</sup> .026	Best	Weakest
2. POSITION	3 41	8 63	18 52	60 23	94 6	.430 <sup>¶§</sup> -.022	Best	Weakest
3. HEAD	3 37	8 60	25 56	64 26	85 5	.455 <sup>¶§</sup> -.011	Best	Weakest
4. FACIAL EXPRESSION	3 58	4 52	42 43	50 19	86 11	.362 <sup>¶§</sup> -.117	Best	Weakest
5. DISTANCE	3 61	12 60	35 32	65 23	69 9	.328 <sup>¶§</sup> -.119	Best	Weakest
6. EYE MOVEMENT	3 47	8 57	39 54	62 20	73 7	.340 <sup>¶§</sup> -.057	Best	Weakest
7. INTONATION	7 77	4 59	29 30	68 8	76 9	.382 <sup>¶§</sup> -.151	Best	Weakest
8. HAND GESTURES	7 60	9 66	33 37	61 18	75 4	.355 <sup>¶§</sup> -.124	Best	Weakest

§ -- significant at the .05 level.

¶ -- significant at the .01 level.

$$D = (Max.) F_O - S_N$$

$$D = \frac{88}{185}$$

$$= .470$$

$$\text{critical value } 70 = \frac{1.36}{N}$$

$$= \frac{1.36}{13.60}$$

$$= .1$$



If D is equal to or greater than the critical value of D, it is significant at the .05 level.

If D is equal to or greater than the critical value of D, using the Kolmogorov-Smirnov one-sample test of  $\frac{1.63}{N} = .120$ , it is significant at the .01 level. Thus, we reject the  $H_0$  and conclude that the students indicated significant preferences in favouring one of the ranks.



## APPENDIX C

TABLE II

## COMPARING BY FEATURES (PERCENTAGES)

ENCODER (SENDER)	1	2	3	4	5	
1. POISE	1.1 17.3	1.1 40.0	10.3 29.2	45.9 11.4	41.6 1.6	Best Weakest
2. POSITION	1.6 22.2	4.3 34.1	9.7 28.1	32.4 12.4	50.8 3.2	Best Weakest
3. HEAD	1.6 20.0	4.3 32.4	13.5 30.3	34.3 15.1	43.2 2.7	Best Weakest
4. FACIAL EXPRESSION	1.6 31.4	2.2 28.1	22.7 23.2	27.0 10.3	46.5 5.9	Best Weakest
5. DISTANCE	1.6 33.0	6.5 32.4	18.9 17.3	35.1 12.4	37.3 4.9	Best Weakest
6. EYE MOVEMENT	1.6 25.4	4.3 30.8	21.1 29.2	33.5 10.8	39.5 3.8	Best Weakest
7. INTONATION	3.8 42.7	2.2 31.6	15.7 16.3	36.8 4.3	41.1 4.9	Best Weakest
8. HAND GESTURES	3.8 32.4	4.9 35.7	17.8 20.0	33.0 9.7	40.5 2.2	Best Weakest



APPENDIX D  
 CHECKLIST FOR SELF APPRAISAL  
 TABLE I

ENCODER (SENDER)	BEST				
	1	2	3	4	5
1. POISE (fidgets, ease of stance)					
2. POSITION (rigidly maintained, naturally relaxed)					
3. HEAD (rigid, reinforcing)					
4. FACIAL EXPRESSION (unchanging, animated)					
5. DISTANCE (remote, comfortably involved)					
6. EYE MOVEMENT (no contact, empathetic overview)					
7. INTONATION (dull, appreciably varied)					
8. HAND GESTURES (awkward, reinforcingly appropriate)					



## CHECKLIST FOR SELF APPRAISAL

TABLE II

DECODER (RECEIVER)	1	2	3	4	5
1. EYE CONTACT (wandering, intent)					
2. POSTURE (lethargic, attentive)					
3. HEAD (bowed, nod/shake)					
4. FACIAL EXPRESSION (blank, quizzical)					
5. OVERT REACTION (apathetic, angry/curious)					





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